

S/049/62/000/005/002/003
D207/D308

AUTHOR: Yegorov, Yu.M.

TITLE: On the problem of recording geomagnetic field variations in the frequency range 0.1 - 10 c/s

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya, no. 5, 1962, 677 - 678

TEXT: The author describes a variometer used in summer of 1961 at the "Borok" Geophysical Station of the Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth, AS USSR). It had a pass-band of 0.1 - 10 c/s. A magnet and a mirror were mounted on a quartz frame and light reflected from the mirror was amplified with a photomultiplier and a two-stage amplifier. The resultant signal was displayed by means of a loop oscillograph OMC-2 (OMS-2). Below 0.1 c/s the cut-off was ensured by the RC-circuits of the amplifier; above 10 c/s the cut-off was due to the pass band of the quartz frame with Helmholtz rings around it. Two records of the Hx field variations are given as an illustration. The sensitivity of the instrument with $\Phi 3Y-2$

Card 1/2

On the problem of recording ...

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D207/DJ08

(FEU-2) as a photomultiplier was 0.1%. There are 4 figures.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Institute
of Physics of the Earth, Academy of Sciences USSR)

SUBMITTED: December 26, 1961

Card 2/2

YEGOROV, Yu.M.

Possibility of increasing the frequency range of a highly sensitive magnetic microvariation station. Izv. AN SSSR. Ser. geofiz. no.11:1659-1662 N '62. (MIRA 15:11)

1. Institut fiziki Zemli AN SSSR.
(Magnetic variometer)

YEGOROV, Yu.M.; CHERNOZEMOVA, V.G.

Results of magnetotelluric sounding in the region of the Lovozero
geophysical station. Izv. AN SSSR. Fiz. zem. no.2:82-85 '65.

(MIRA 18:6)

1. Institut fiziki Zemli AN SSSR.

L 22504-66 INT(1)/INT(M)/INT(W)/INT(E)-0 IJP(c) VI/EM/CG
 ACC NR: AT6003006 (N) SOURCE CODE: UR/3175/65/000/025/0139/0146

AUTHOR: Yegorov, Yu. M.; Osinskaya, S. V.; Chernozemova, V. G.

ORG: IFZ AN SSSR

TITLE: Shock absorbing platform with liquid damping

SOURCE: USSR. Gosudarstvennyy geologicheskiiy komitet. Osoboye konstruktorskoye byu-ro. Geofizicheskaya apparatura, no. 25, 1965, 139-146

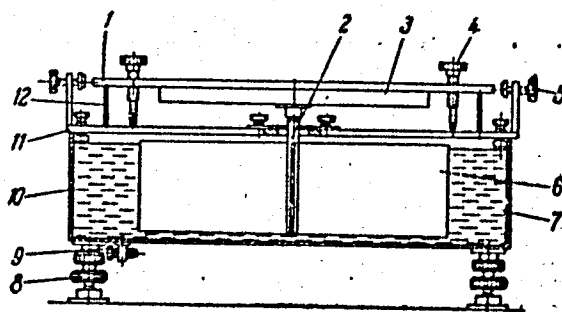
TOPIC TAGS: shock absorber, ground shock transmission, vibration damping, vibration measurement, seismologic instrument

ABSTRACT: A shock absorbing platform consisting of an instrument-mounting plate supported by four thin elastic rods was developed at the Institute of Physics of the Earth, AN SSSR. In addition to the supports, the plate is held at its center by a large rod connected to four blades which are partially immersed in machine oil (see figure). The platform absorbs microseismic disturbances with frequencies of 2-20 cps and is used with geophysical instruments. The natural frequency of the device is expressed analytically in terms of the physical properties of the elastic rods. This frequency should be at least 3 times lower than the disturbance frequency. Tests showed that this platform can reduce the effect of microseismic disturbances from 5 to 10 times. Examples of readings from instruments mounted on the platform are included. Orig. art. has: 6 figures, 4 formulas.

Card 1/2

L 22554-66

ACC NR: AT6003006



Shock absorbing platform.

SUB CODE: 08,14/

SUBM DATE: 00/

ORIG REF: 006/

OTH REF: 000

Card

2/2

BK

YEGOROV, YU. P.

USSR/Physics - Optical Methods, Chem- 1 Feb 53
istry

"Optical Method of Investigation of Organic Silicon Derivatives of Hydrocarbons," Yu. P. Yegorov and P. A. Bazhulin, Phys Inst imeni Lebedev, Acad Sci USSR

DAN SSSR, Vol 88, No 4, pp 647-650

Investigates unsatd org si compds of the alkeno-silane type containing groups with double bonds $\text{CH} = \text{CH}_2$, $\text{CH}_2\text{CH} = \text{CH}_2$, as well as radicals CH_3 , C_2H_5 at si. Analyzes intensity of characteristic freqs giving information on structure of mols. Presented by Acad G. S. Landsberg 3 Dec 52

249T53

YEGOROV, Yu. P.

Optical method of studying silicon organic compounds.
The additivity of the intensities of the characteristic frequencies in the Raman spectra of allylsilanes. P. A. Baz-
hulin, Yu. P. Yegorov, and V. P. Mironov. *Doklady Akad. Nauk S.S.S.R.* 92, 515-17 (1953) (Engl. translation issued as U.S. Atomic Energy Comm. NSF-tr-197, 3 pp. (1954)).—
Integrated intensities and widths of Raman bands of the substituted silanes X_n-SiY_{4-n} , where X is Me and Y is $CH_2=CHCH_3$, are reported. Characteristic frequencies are identified for the $CH_2=CHCH_3$ group, and their intensities are shown to be additive within the exptl. error ($\pm 15\%$). Several bands broaden and others become narrow as n is successively 1, 2, 3, and 4. With increase of symmetry the frequency of the totally symmetrical SiC stretching vibration decreases from 556 to 525 cm^{-1} ; the band broadens, while the integrated intensity remains const.

H. J. Bernstein

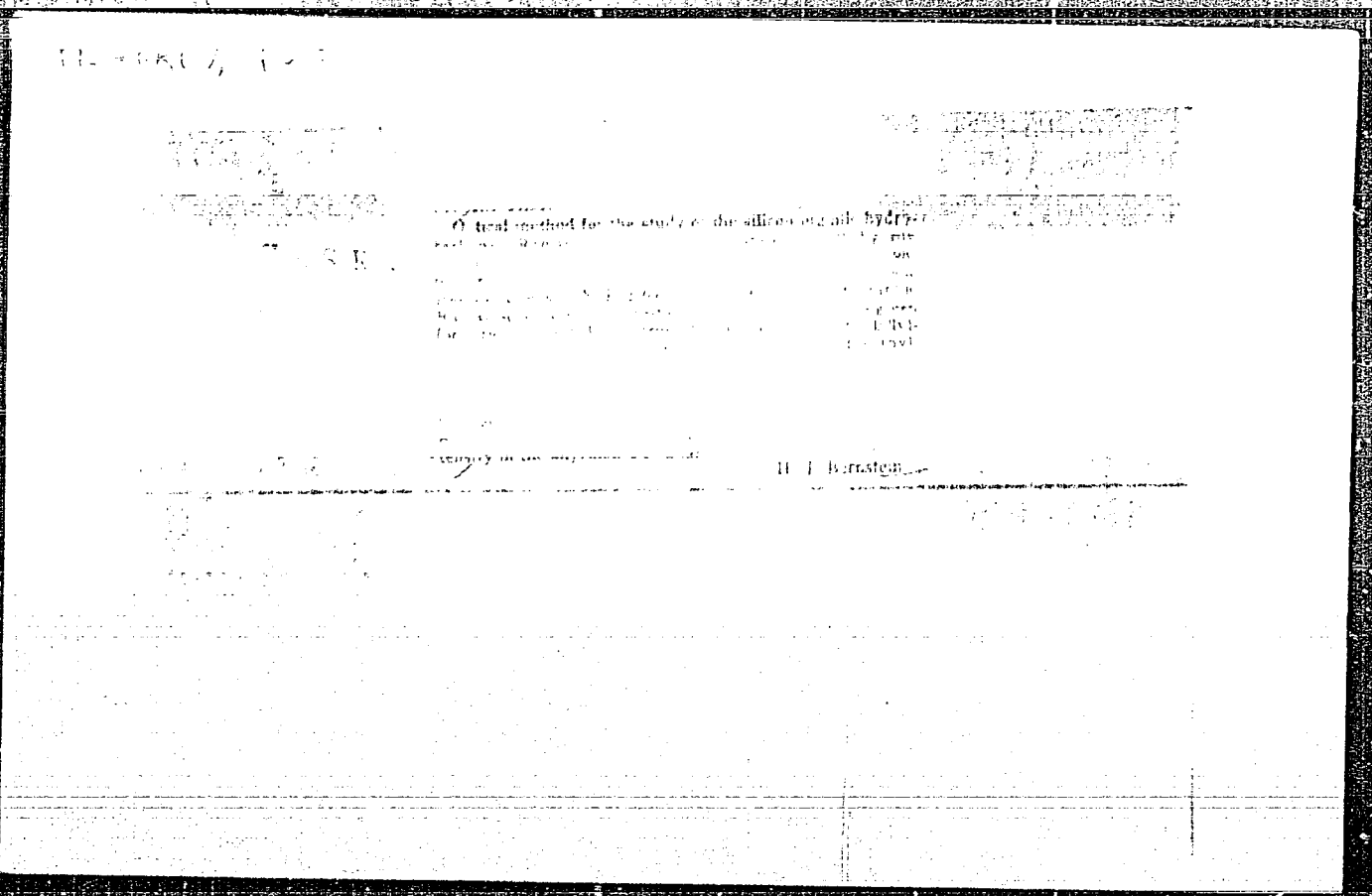
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11-10-54

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USSR/ Chemistry Organic chemistry

Card : 1/1 Pub. 40 - 22/27

Authors : Petrov, A. D., Cadykhzadze, S. I., and Yegorov, Yu. P.

Title : Synthesis, physical and chemical properties of vinyl ethynylsilanes

Periodical : Izv. AN SSSR, Otd. khim. nauk 4, 722 - 732, July - August 1954

Abstract : The synthesis and physico-chemical properties of vinyl ethynylsilanes, are described. The addition reactions, considered the most interesting among all other chemical reactions of vinyl ethynylsilanes, are analyzed. Vinyl ethynylsilanes and particularly divinyl ethynylsilanes, when exposed to air, spontaneously polymerize into transparent peroxide - containing resins. The relation between the rate of polymerization and the structure of the silanes, is explained. Tables showing the physico-chemical properties of mono-, di- and trisilanes, are included. Eleven references: 6 USSR and 5 USA (1933 - 1953). Graphs; tables.

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organic Chemistry

Submitted : May 6, 1953

USSR/ Physics - Spectral analysis

Card 1/1 Pub. 43 - 35/62

Authors : Yegorov, Yu. P.

Title : ~~Study of molecular spectra of silicon-organic compounds by the combined diffusion and infrared spectroscopy methods~~

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 702-704, Nov-Dec 1954

Abstract : A number of unsaturated silanes of the $(CH_3)_kSi(CH_2CHCH_2)_{4-k}$ type and five branched dodecanes were investigated for the purpose of determining the characteristics of the molecular spectra of the silicone-organic compounds and to establish the group belonging to valent C-H oscillation frequencies. The combined diffusion spectra obtained for these substances served as a basis for measuring the polarization, integral intensity and band-width as well as the infrared absorption spectra. Results are described. Seven references: 1 USA and 6 USSR (1949-1953). Table.

Institution : The M. V. Lomonosov State University, Physics Faculty, Moscow

Submitted :

EGOROV, Yu. P.

USSR/Chemistry

Card 1/1

Authors : Shuykin, N. I., Member-Correspondent of the Acad. of Scs. of the USSR, Minchev, Kh. M; Tulupova, E. D., and Egorov, Yu. P.

Title : Transformations of ethylcyclopentane in the presence of Ru- and Pd-catalysts under the pressure of hydrogen in a flowing system.

Periodical : Dokl AN SSSR 95, 6, 1211 - 1214, 21 Apr 1954

Abstract : The article gives the specific characteristics of metallic catalysts in relation to their chemical properties and the special features of carrying agents, especially, render the pressure of hydrogen in flowing systems. Tables, a diagram.

Institution : N. D. Zelinskiy's Institute of Organic Chem. of the Acad. of Scs. of the USSR

Submitted : 17 Feb 1954

YEGOROV, Yu. P.

USSR/ Chemistry - Organic chemistry

Card 1/1 : Pub. 22 - 24/48

Authors : Plate, A. F.; Momma, N. A.; and Yegorov, Yu. P.

Title : Synthesis and properties of certain cyclic silico-hydrocarbons

Periodical : Dok. AN SSSR 97/5, 847-850, August 11, 1954

Abstract : The synthesis and properties of tetramethylenesilane, a representative of five-membered cyclic silico-hydrocarbons, containing one Si-atom in the cycle, are described. A comparison of constants of the synthesized silico-hydrocarbon with the constants of homologous cyclopentane hydrocarbons showed that by substituting the carbon atom in the cyclopentane ring with a Si-atom the hydrocarbon attains a higher boiling point, index of refraction and specific weight. The physical constants of cyclic hydrocarbons obtained are shown in table. Thirteen references: 7-USA; 3-USSR; 2-German and 1-Japanese (1911-1953).

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organic Chemistry

Presented by : Academician B. A. Kazanskiy, April 9, 1954

USSR/Chemistry - Conversion processes

Card 1/1 Pub. 22 - 29/56

Authors : Minachev Kh. M., Memb. Corresp. of Acad. of Sc. USSR.; Shuykin, N. I.;
Tulupova, E. D.; and Yegorov, Yu. P.
Title : Conversions of ethylcyclopentane in the presence of Rh and Pt-catalysts under
hydrogen pressure in a flowing system

Periodical : Dok. AN SSSR 99/5, 777-780, Dec 11, 1954

Abstract : The experimental data obtained during the catalysis of ethylcyclopentane
over Rh - Al_2O_3 , Pt - Al_2O_3 and Pt - SiO_2 , under conditions as described in
the title, are presented. The specific characteristics of Rh deposited on
 Al_2O_3 and Pt on SiO_2 , during ethylcyclopentane conversions, are described.
The catalyzates obtained, after determining their specific weight, index of
refraction and aromatic hydrocarbon content were subjected to rectification
for the purpose of separating the hydrocarbons. Physico-chemical analysis of
ethylcyclopentane cat-conversion products showed that this hydrocarbon isomer
izes when in contact with Rh - Al_2O_3 with the expansion into a six-membered
cycle and finally dehydrogenates into toluene. Five USSR references (1934-
1954). Tables; graph.

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organic Chemistry

Submitted : July 20, 1954

YEGOROV, Yu. P.

✓ Synthesis of 1,1-dichlorocyclohexane, A. D. Petrov, G. I. Nikishin, N. P. Smolarkina, and Yu. P. Yegorov (N. D. Zelinskii Inst. Org. Chem., Moscow), Izv. Akad. Nauk S.S.S.R., *Udel. Khim. Nauk* 1955, 947-8. $\text{CICH}_2\text{CHCICH}_2\text{CH}_2$ (116 g.) passed at 23 g./hr. through a 40 X 600-mm. glass tube filled with pieces of 60/20 alloy of Si-Cu at 300° and the product distd. gave 15.6% ($\text{CICH}_2\text{CH}_2\text{SiCH}_2$) (I), b. 133°, d₄ 1.2130, n_D 1.4782, and 9% ($\text{C}_2\text{SiCH}_2\text{CH}_2$) (II), b. 243°, d₄ 1.4115, n_D 1.4879. Methylation of I with MeMgCl gave 59.4% ($\text{CICH}_2\text{CH}_2\text{SiMe}_2$), b.m. 100.5-1°, d₄ 0.8407, n_D 1.4133 [Raman spectrum in cm.⁻¹: 133(4), 214(2), 310(4), 411(5), 620(7), 730(3), 915(5), 950(1), 1100(4), 1200(4), 1255(1), 1405(5), 1610(4), 2804(10), 2965(8), 3024(5)], hydrogenated over Pt to ($\text{CH}_2\text{CH}_2\text{SiMe}_2$), b. 107°, d₄ 0.7871, n_D 1.4328. II with MeMgCl gave ($\text{CICH}_2\text{SiMe}_2$), b. 187.5-8.5°, d₄ 0.7789, n_D 1.4398.

G. M. Kosolapoff

PM

Yegorov, Yu. P.
SHUYKIN, N.I.; DOBRYNINA, T.P.; TIMOFEEVA, Ye.A.; YEGOROV, Yu.P.

Catalytic dehydrogenation of isopentane. Izv. AN SSSR, Otd. khim.
nauk no.5:952-953 S-O '55. (MLBA 9:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii
nauk SSSR. (Butane) (Dehydrogenation)

PLATE, A.F.; BELIKOVA, N.A.; YEGOROV, Yu.P.

Interaction of dialkyl-tetramethylene silanes and concentrated
sulfuric acid. Dokl. AN SSSR 102 no.6:1131-1134 Je'55.
(MLRA 8:10)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii
nauk SSSR. Predstavleno akademikom B.A.Kazanskim
(Silane) (Sulfuric acid)

FREYDLIN, L.Kh; BALANDIN, A.A., akademik; NAZAROVA, N.M.; YEGOROV, Yu.P.

Alkylation of propane and Λ -pentane with propylene at high temperatures, under high pressures, and in presence of aluminum oxide. Dokl. AN SSSR 105 no.6:1270-1273 D '55. (MLRA 9:4)

1. Institut organicheskoy khimii imeni N.D.Zelinskego Akademii nauk SSSR.
(Alkylatien) (Hydrocarbena)

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PETROV, A.I.A.; SERGIYENKO, S.R.; TSEDILINA, A.L.; YEGOROV, Yu.P.

Izomerization of unsaturated $C_{12}-C_{16}$ hydrocarbons. Khim. i tekhn.
tepl. no.1:26-32 Ja '56. (MLRA 9:7)
(Hydrocarbons)

YEGOROV, Yu. P.

USER/Chemistry - Conversion processes

Card 1/2 Pub. 40 -10/25

Authors : Shuykin, N. I.; Berdnikova, N. G.; and Yegorov, Yu. P.

Title : Conversions of n-propyl-and isopropylbenzene over a nickel-alumina catalyst at increased temperatures and hydrogen pressures

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 43-49, Jan 1956

Abstract : An investigation was made to determine the catalytic conversions of n-propyl- and isopropylbenzenes over a nickel-alumina catalyst at various temperatures and hydrogen pressures. Results showed that approximately 98% of the basic hydrocarbons experience a thorough conversion at a 465° temperature. Hydrogenolysis of the side chain with the formation of dealkylation products was found to be the basic reaction in the conversion of isomeric propyl benzenes.

Institution : Acad. of Sc., USSR, Inst. of Organ. Chem. im. N. D. Zelinskiy

Submitted : March 12, 1955

Card 2/2 Pub. 40 - 10/25

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 43-49, Jan 1956

Abstract : The hydrogenation of the benzene nucleus, contraction of the six-membered cycle into a 5-membered one follow parallel with the hydrogenolysis. The formation of methylation products by the methylene radicals due to the decomposition of the catalyst was observed. Twelve references: 9 USSR, 1 Germ. and 2 Eng. (1903-1955). Tables

YEGOROV, Yu. P.
USSR/Chemistry - Reaction processes

Card 1/2 Pub. 40 - 11/25

Authors : Petrov, A. D.; Yegorov, Yu. P.; Mironov, V. F.; Nikishin, G. I.; and
Bugorkova, A. A.

Title : Reactivity and the molecular-optical properties of alkenylsilanes

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 50-55, Jan 1956

Abstract : The existence of a parallelism between the rates of thiocyanogen additions and the spectral line intensity was experimentally established for a majority of alkenylsilanes of various structure. It was found that allylsilanes and alkenylsilanes with a ternary double bond are characterized by very high activity of the double bonds toward addition reactions and also by very high spectral line intensity, infrared absorption bands as well as by the presence of

Institution : Acad. of Sc., USSR, Inst. of Organ. Chem. im. N. D. Zelinskiy

Submitted : March 18, 1955

Card 2/2 Pub. 40 - 11/25

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 50-55, Jan 1956

Abstract : an exaltation of the molecular refraction. The connection between the alkenylsilane characteristics and the σ - π conjugations is explained. The causes for the changes in the spectral line intensity values of double bonds are discussed. Twenty references: 16 USSR, 1 Swedish, 1 Eng., 1 Australian and 1 USA (1946-1955). Tables; graphs.

YEGOROV, YU. P.

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61424

Author: Minachev, Kh. M., Shuykin, N. I., Feofanova, L. M., Yegorov, Yu. P.

Institution: None

Title: Conversions of n-Decane in the Presence of Platinized Alumina at Elevated Temperature and Hydrogen Pressure

Original

Periodical: Izv. AN SSSR, Otd. khim. n., 1956, No 3, 352-357

Abstract: Investigated were contact-catalytic conversions of $n\text{-C}_{10}\text{H}_{22}$ in flow system over platinized alumina (Referat Zhur - Khimiya, 1956, 12800) at elevated temperature and H_2 pressure. $n\text{-C}_{10}\text{H}_{22}$ (BP 174.11°) prepared by Grignard reaction by action of $\text{C}_3\text{H}_7\text{CHO}$ on $\text{C}_6\text{H}_{13}\text{MgBr}$, and subsequent dehydration of the formed $\text{sec-C}_{10}\text{H}_{21}\text{OH}$ over Al_2O_3 at 320° and hydrogenation of the reaction product in vapor phase in presence of 1% Pt/C at 210° and normal pressure. $n\text{-C}_{10}\text{H}_{22}$ was brought in contact with catalyst at space velocity 1.1 hour^{-1} , and molal ratio $\text{H}_2:n \text{ C}_{10}\text{H}_{22} = 5:1$, H_2 pressure 30-50 atm

Card 1/2

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61424

Abstract: and temperature 460° . Catalyzates are characterized by n^{20}_D and d^{20}_4 and content in aromatic hydrocarbons which were separated by adsorption on silica gel. n-alkanes were separated from iso-alkanes by means of urea. Products of catalysis were subjected to spectral analysis in IKS-11 spectrometer (slit 0.2 mm, concentration of hydrocarbon in CCl_4 1:50 by volume). It was found that great changes on increase in number of CH_3 -groups are observed at peaks 3.51, 3.42 and 3.38 μ . With increasing branching of hydrocarbon the first 2 peaks decrease and the third increases. From the magnitude of ratios 3.51:3.38 and 3.42:3.38 an opinion was formed of the extent of branching of the hydrocarbon. It was found that under the described conditions n- $C_{10}H_{22}$ undergoes a series of extensive conversions as a result of which are formed aromatic hydrocarbons 5 and 6-membered cyclanes and mono- and disubstituted isoalkanes $C_7 - C_{10}$. The content of monosubstituted decanes in the total mass of isodecanes is 70%.

Card 2/2

YEGOROV, Yu. P.

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26891.

Author : Plate, A.F.; Belikova, N.A.; Yegorov, Yu.P.
 Inst : Academy of Sciences of USSR.
 Title : Interaction of 5- and 6-Membered Silicohydrocarbons Containing Silicon Atom in Cycle with Concentrated Sulfuric Acid.

Orig Pub: Izv. AN SSSR, Otd. khim, n., 1956, No. 9, 1085 - 1090.

Abstract: Concentrated H_2SO_4 breaks the bond Si-C in di-(tetramethylene)-silane (I) and diethyldi-(tetramethylene)-disiloxane (II) quantitatively. I was prepared of 60.5 g of 1,4- $C_4H_8Br_2$, 9g of Li and 35.8 g of dichlorotetramethylenesilane, yield 26.6%, boiling point 173 to 174°/750 mm,

Card 1/4

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26891.

melting point -52° , $n_D^{20} = 1.4863$, $d_4^{20} = 0.9043$.

Dibutyldi-(tetramethylene)-disiloxane, boiling

point $293.5-294^{\circ}/751$ mm, $n_D^{20} = 1.4670$, $d_4^{20} =$

0.9125 , was separated by the action of 0.12 mol of H_2SO_4 (6 hours, 20°) on 0.03 mol of I and usual treatment, yield 90% . Tetraethyltetra-butylcyclotetrasiloxane, boiling point $194-196^{\circ}/$

10 mm, $n_D^{20} = 1.4422$, $d_4^{20} = 0.9286$, was similarly

prepared of 0.011 mol of II and 0.25 mol of H_2SO_4 (20 hours, 20°), yield 60% . Dimethyl-penta methylenesilane (III) reacts with

Card 2/4

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26891.

concentrated H_2SO_4 in two directions - with splitting the bond Si-C in the cycle and with tearing the group CH_3 off. 0.7 mol of $(CH_3)_2SiCl_2$ in 1 lit of ether was added at 5° to 1.5- $C_5H_{10}(MgBr)_2$ (of 1.5 mol of Mg) in 650 ml of ether in order to prepare III, the mixture was heated 15 hours and after the usual treatment the yield of III was 26.7%. CH_4 (425 ml) separated, when 0.036 mol of III was shaken with 0.094 mo. of H_2SO_4 (13.5 hours, 20°); the treatment of the mass with water resulted in a mixture of disiloxanes - symm-tetramethyldi-n-amyldisiloxane and trimethyl-n-amylopentamethylenedisiloxane, yield of the mixture 85%, boiling point $245-252^\circ$, $n_D^{20} = 1.4430$, $d_4^{20} = 0.8681$.

Card 3/4

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26891.

In order to prepare IV, 0.12 mol of $(CH_3)_2-(C_5H_{11})SiCl$ (of 1 mol of $(CH_3)_2SiCl_2$ and 1 mol of $C_5H_{11}MgBr$) was shaken 10 minutes with 50 ml of water and diluted H_2SO_4 , yield of IV 77%, boiling point 249-249.5°/758 mm,

$n_D^{20} = 1.4226$, $d_4^{20} = 0.8128$. The composition

of the mixture was confirmed by the spectra of combined scattering of the prepared mixture as well as of III and IV separately.

Card 4/4

YEGOROV, YU.P.

B-4

USSR/Physical Chemistry - Molecule. Chemical Bond.

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18159

Author : Ygorov, Yu.P. and Petrov, Al.A.
Title : Determination of the Degree of Ramification of Paraffin Hydrocarbons of $C_{12} - C_{16}$ Composition by the Method of Infrared Spectroscopy.

Orig Pub : Zh. analit. chemistry, 1956, 11, No 4, 483-488

Abstract : Infrared spectra of 28 alkanes (A) of normal structure and iso structure of $C_{12} - C_{16}$ composition are examined in the region of valence C-H 3.35 - 3.5 μ in a solution of CCl_4 . The character of change in intensity of peaks observed allows us to show the groups where they belong: CH_3 3.38 μ , CH_2 3.50 and 3.42 μ and CH 3.48 μ . As the number of groups CH_3 increases with the ramification of an alkane (while the number of groups CH_2 decreases), the measurement of the ratio of intensities of peaks 3.50 and 3.42 to 3.38 μ proves to be a measure of

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YEGOROV, Yu. P., Cand Phys-Math Sci -- (diss) "Study of Oscillatory Spectra of Unsaturated Silico-Organic Compounds." Mos, 1957. 12 pp (Min of Higher Education USSR, Mos State Univ im M. V. Lomonosov), 100 copies (KL, 48-57, 104)

- 2 -

YEGOROV, YU. P.

PRIKHOT'KO, A. F.
24(7) 3 PHASE I BOOK EXPLOITATION 80V/1365
L'vov. Universitet

Materialy I Vsesoyuznogo sveshchaniya po spektroskopii. t. 1:
Molekulyarnaya spektroskopiya (Papers of the 10th All-Union
Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy)
[L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies
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Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K.,
Candidate of Physical and Mathematical Sciences, Milyanchuk, V.S.,
Candidate of Physical and Mathematical Sciences, and Glauberman,
A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Postovskiy, I. Ya., L.P. Trefilova, Yu. N. Shynker,
and S.G. Bogomolov. Coplanarity of Phenol Molecule
in Diphenyl Derivatives

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Yegorov, Yu. P., and Ye. A. Chernyshev. Spectra
of Bifluororganic Compounds With an Aromatic
Ring

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Gerasimov, P.M., I.A. Tel'tevskiy, S.V. Mamedov,
and V.P. Sergeyev. Emulsions in the Range From
2.5 to 600 Microns

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Kiselev, B.A. Double Monochromator With Diffraction
Gratings

397

Yaroslavskiy, N.G., B.A. Zheludov, and A. Ye. Stanovich.
Methods and Apparatus for Registration of Long-wave
Infrared Spectra

399

Card 25/30

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Page 4: 1. Unit of 100. 2. 100. 3. 100. 4. 100. 5. 100. 6. 100. 7. 100. 8. 100. 9. 100. 10. 100. 11. 100. 12. 100. 13. 100. 14. 100. 15. 100. 16. 100. 17. 100. 18. 100. 19. 100. 20. 100. 21. 100. 22. 100. 23. 100. 24. 100. 25. 100. 26. 100. 27. 100. 28. 100. 29. 100. 30. 100. 31. 100. 32. 100. 33. 100. 34. 100. 35. 100. 36. 100. 37. 100. 38. 100. 39. 100. 40. 100. 41. 100. 42. 100. 43. 100. 44. 100. 45. 100. 46. 100. 47. 100. 48. 100. 49. 100. 50. 100. 51. 100. 52. 100. 53. 100. 54. 100. 55. 100. 56. 100. 57. 100. 58. 100. 59. 100. 60. 100. 61. 100. 62. 100. 63. 100. 64. 100. 65. 100. 66. 100. 67. 100. 68. 100. 69. 100. 70. 100. 71. 100. 72. 100. 73. 100. 74. 100. 75. 100. 76. 100. 77. 100. 78. 100. 79. 100. 80. 100. 81. 100. 82. 100. 83. 100. 84. 100. 85. 100. 86. 100. 87. 100. 88. 100. 89. 100. 90. 100. 91. 100. 92. 100. 93. 100. 94. 100. 95. 100. 96. 100. 97. 100. 98. 100. 99. 100. 100. 100. 101. 100. 102. 100. 103. 100. 104. 100. 105. 100. 106. 100. 107. 100. 108. 100. 109. 100. 110. 100. 111. 100. 112. 100. 113. 100. 114. 100. 115. 100. 116. 100. 117. 100. 118. 100. 119. 100. 120. 100. 121. 100. 122. 100. 123. 100. 124. 100. 125. 100. 126. 100. 127. 100. 128. 100. 129. 100. 130. 100. 131. 100. 132. 100. 133. 100. 134. 100. 135. 100. 136. 100. 137. 100. 138. 100. 139. 100. 140. 100. 141. 100. 142. 100. 143. 100. 144. 100. 145. 100. 146. 100. 147. 100. 148. 100. 149. 100. 150. 100. 151. 100. 152. 100. 153. 100. 154. 100. 155. 100. 156. 100. 157. 100. 158. 100. 159. 100. 160. 100. 161. 100. 162. 100. 163. 100. 164. 100. 165. 100. 166. 100. 167. 100. 168. 100. 169. 100. 170. 100. 171. 100. 172. 100. 173. 100. 174. 100. 175. 100. 176. 100. 177. 100. 178. 100. 179. 100. 180. 100. 181. 100. 182. 100. 183. 100. 184. 100. 185. 100. 186. 100. 187. 100. 188. 100. 189. 100. 190. 100. 191. 100. 192. 100. 193. 100. 194. 100. 195. 100. 196. 100. 197. 100. 198. 100. 199. 100. 200. 100. 201. 100. 202. 100. 203. 100. 204. 100. 205. 100. 206. 100. 207. 100. 208. 100. 209. 100. 210. 100. 211. 100. 212. 100. 213. 100. 214. 100. 215. 100. 216. 100. 217. 100. 218. 100. 219. 100. 220. 100. 221. 100. 222. 100. 223. 100. 224. 100. 225. 100. 226. 100. 227. 100. 228. 100. 229. 100. 230. 100. 231. 100. 232. 100. 233. 100. 234. 100. 235. 100. 236. 100. 237. 100. 238. 100. 239. 100. 240. 100. 241. 100. 242. 100. 243. 100. 244. 100. 245. 100. 246. 100. 247. 100. 248. 100. 249. 100. 250. 100. 251. 100. 252. 100. 253. 100. 254. 100. 255. 100. 256. 100. 257. 100. 258. 100. 259. 100. 260. 100. 261. 100. 262. 100. 263. 100. 264. 100. 265. 100. 266. 100. 267. 100. 268. 100. 269. 100. 270. 100. 271. 100. 272. 100. 273. 100. 274. 100. 275. 100. 276. 100. 277. 100. 278. 100. 279. 100. 280. 100. 281. 100. 282. 100. 283. 100. 284. 100. 285. 100. 286. 100. 287. 100. 288. 100. 289. 100. 290. 100. 291. 100. 292. 100. 293. 100. 294. 100. 295. 100. 296. 100. 297. 100. 298. 100. 299. 100. 300. 100. 301. 100. 302. 100. 303. 100. 304. 100. 305. 100. 306. 100. 307. 100. 308. 100. 309. 100. 310. 100. 311. 100. 312. 100. 313. 100. 314. 100. 315. 100. 316. 100. 317. 100. 318. 100. 319. 100. 320. 100. 321. 100. 322. 100. 323. 100. 324. 100. 325. 100. 326. 100. 327. 100. 328. 100. 329. 100. 330. 100. 331. 100. 332. 100. 333. 100. 334. 100. 335. 100. 336. 100. 337. 100. 338. 100. 339. 100. 340. 100. 341. 100. 342. 100. 343. 100. 344. 100. 345. 100. 346. 100. 347. 100. 348. 100. 349. 100. 350. 100. 351. 100. 352. 100. 353. 100. 354. 100. 355. 100. 356. 100. 357. 100. 358. 100. 359. 100. 360. 100. 361. 100. 362. 100. 363. 100. 364. 100. 365. 100. 366. 100. 367. 100. 368. 100. 369. 100. 370. 100. 371. 100. 372. 100. 373. 100. 374. 100. 375. 100. 376. 100. 377. 100. 378. 100. 379. 100. 380. 100. 381. 100. 382. 100. 383. 100. 384. 100. 385. 100. 386. 100. 387. 100. 388. 100. 389. 100. 390. 100. 391. 100. 392. 100. 393. 100. 394. 100. 395. 100. 396. 100. 397. 100. 398. 100. 399. 100. 400. 100. 401. 100. 402. 100. 403. 100. 404. 100. 405. 100. 406. 100. 407. 100. 408. 100. 409. 100. 410. 100. 411. 100. 412. 100. 413. 100. 414. 100. 415. 100. 416. 100. 417. 100. 418. 100. 419. 100. 420.

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CIA-RDP86-00513R001962510011-5

rubber-like polymer

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CIA-RDP86-00513R001962510011-5"

"APPROVED FOR RELEASE: 09/01/2001

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CIA-RDP86-00513R001962510011-5

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962510011-5"

AUTHORS: Yegorov, Yu. P.

62-1-19/21

TITLE: About Combined Diffusion Spectra of Si-, Ge- and Sn-Organic Compounds with Allyl Group. (O spektrakh kombinatsionnogo rasseyaniya kremne-, germaniy- i olovoorganicheskikh soyedineniy s allil'noy gruppoy)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, page 124 (U.S.S.R.)

ABSTRACT: A study of combined diffusion spectra of allyl silanes ($R_3\text{Si}-\text{CH}_2\text{CH}=\text{CH}_2$) showed that the position and intensity of the frequencies of the $\text{CH}_2\text{CH}=\text{CH}_2$ group do not depend upon the form of the radical R. The author investigated the change of these frequencies during the substitution of the Si-atom with metals of the fourth group - Ge and Sn-. It is evident from results obtained (see table) that a certain series of frequencies does not change the value during transition from one compound to another. The frequency of the double C=C

Card 1/2

*Inst. Org. Chem. in N. D. Zelinskiy
Moscow.*

About Combined Diffusion Spectra of Si-, Ge- and An-Organic
Compounds with Allyl Group. 62-1-19/21

bond also remains almost unchanged. It was assumed that all these frequencies are connected with the oscillations of the final $\text{CH} = \text{CH}_2$ group sufficiently removed from the metal atoms.

Table. There 6 references, of which 5 are Slavic.

ASSOCIATION:

Academy of Sciences USSR, Institute of Organic Chemistry imeni
N. C. Zelinskiy

PRESENTED BY:

SUBMITTED:

September 1, 1956

AVAILABLE:

Library of Congress

Card 2/2

YEGOROV, I.O.
ROMADAN, I.A.; SHUYKIN, N.I.; YEGOROV, Yu.P.

Determination on purity of α - and β -n butylnaphthalenes by
the method of ultraviolet spectroscopy. Izv. AN SSSR. Otd. khim.
- nauk no. 5:648-649 My '57. (MLRA 10:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk
SSSR.

(Naphthalene--Spectra)

YEGOROV, Yu. P.

PETROV, A.D.; MIRONOV, V.F.; GLUKHOVTSHEV, V.G.; YEGOROV, Yu.P.

Synthesis and properties of some of the bis-(trimethylsilyl)
propylenes. Izv. AN SSSR. Otd. khim. nauk no.9:1091-1100 S '57.

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. (MIRA 10:12)
(Propene)

YEGOROV, Y.P.
PETROV, A.D.; SADYKH-ZADE, S.I.; PONOMARENKO, V.A.; SOKOLOV, B.A.;
YEGOROV, Yu.P.

Reaction of some γ -chloralkylsilanechlorides with silicon under
condition of forward synthesis. Zhur. ob. khim. 27 no.9:2479-2486
S '57. (MIRA 11:3)

1. Institut organicheskoy khimii AN SSSR.
(Silicon) (Chemistry, Organic--Synthesis)

CHERNYSHEV, Ye.A.; DOLGAYA, M.Ye.; YEGOROV, Yu.P.

Reaction of chloralkylalkyldichlorosilane with aromatic compounds
in presence of $AlCl_3$. Zhur.ob.khim. 27 no.10:2676-2681 0 '57.
(MIRA 11:4)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Silane compounds) (Aluminum chloride)

YEGOROV, Yu. P.

AUTHOR:

SADYKHZADE, S.I., YEGOROV, Yu.P. and PETROV, A.D.

PA - 3161

TITLE:

Allene-Acetylene Isomeric Transformations in the Silicon Hydrocarbon Series.

(Allen-atsetilenovyye izomernyye prevrashcheniya v ryadu kremneuglevodorodov. Russian).

PERIODICAL:

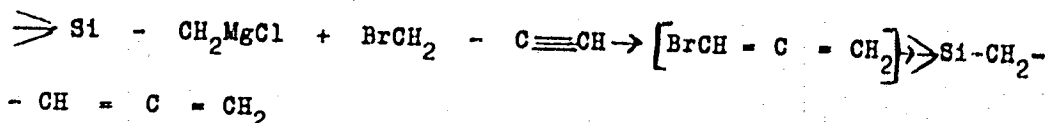
Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 3, pp 620 - 623 (U.S.S.R.)

Received: 6 / 1957

Reviewed: 7 / 1957

ABSTRACT:

On the occasion of an investigation β - γ -silico-allene-hydrocarbons were obtained for the first time by condensation of the Grignard-reagentia from silicon halides with bromine-propargyle. A yield of 60 - 70 % of silico-allene-hydrocarbons only was obtained, probably according to following scheme:



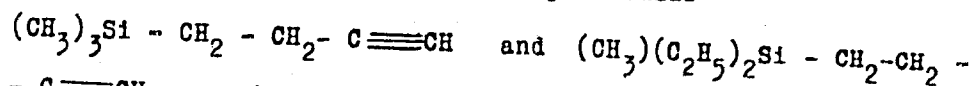
On the occasion of condensation of the Grignard-reagentia from the halides which did not contain silicon with bromine-propargyle, however, a mixture of acetylene- and allene-hydrogens was obtained. When heated with Na, the β - γ - silico-allene-hydrocarbons with a high yield (order of magnitude 40 %) changed into one-substituted

Card 1/2

PA - 3161

Allene-Acetylene Isomeric Transformations in the Silicon Hydrocarbon Series.

silico-acetylene-hydrocarbons with a triple binding to silicon in γ -position. These silicon-hydrocarbons gave a white precipitation with a silver nitrate solution. In particular



$-\text{C} \equiv \text{CH}$ were hydrated in the presence of HgSO_4 in a methanol solution. The Na-derivatives of the acetylene-silico-hydrocarbons condense easily with the halogen-alkyles: A description of the experiments follows. (1 table, 9 citations from Slavic publications).

ASSOCIATION:

Institute for Organic Chemistry N.D. Zelinskiy of the Academy of Science of the U.S.S.R.
(Institut organicheskoy khimii im N.D. Zelinskogo Akademii nauk SSSR.)

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

31 October 1956
Library of Congress

Yegorov, Yu. P.

20-3-28/59

AUTHORS Petrov, A.D., Corresponding Member, AN ^{USSR} A, Shchukovskaya, L.L.,
Sadykh-Zade, S.I., Yegorov, Yu.P.

TITLE The Synthesis and Dehydration of Unsaturated Silicon Containing Alcohols.
(Sintez i degidratatsiya nepredel'nykh kremniysoderzhashchikh spirtov - Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 115, Nr 3, pp 522-525 (U.S.S.R.)

ABSTRACT It is known that the character of alcohol dehydration is determined by the structure and nature of its alcohol group. This is easiest in the case of the tertiary, which is followed by the secondary and most difficult it is in the case of the primary ones. In the case of silicon containing alcohol the influence of this element is added. It was shown that the alcohols with a β -position of the alcohol group with regard to Si suffer a stronger or slighter β -decay, the saturated as well as the unsaturated alcohols, independently of their structure, besides dehydration. The unsaturated alcohols with a δ -position of the alcohol group as well as the not decomposing alcohols with a β -position of this group which are investigated in the present paper are studied only to a very small extent. Formulae of the first of such alcohols are given, the dehydration of which was not yet studied. The first unsaturated not decomposing alcohol with a β -position of the OH-group is

$$\text{OH} - \begin{array}{c} \text{CH}_3 \\ | \\ \text{C} \\ | \\ \text{CH}_3 \end{array} - \text{C} = \text{CH}_2 \cdot \quad \text{Si}(\text{C}_2\text{H}_5)_3$$

Its dehydration with KHSO_4 took place very easily and yielded the first silicium

Card 1/2

The Synthesis and Dehydration of Unsaturated Silicon 20-3-28/59
Containing Alcohols.

analogue of the methylisopren. The authors then synthesized the cyclo analogues of this alcohol and of the silicon hydrocarbon. Already in 1953 it was proved that after an interaction between the dimethylacetylenylcarbinol and the surplus of the Grignard-reagent the obtained derivate reacts with R_3SiCl . The first of the two varieties (explained by schemes) was preferred. The synthesis of the above mentioned compound for $R=CH_3$ was repeated and a series of its analogues was obtained. All of them were easily dehydrated with $KHSO_4$. The precise results of the spectral analysis with the above mentioned results are the reason for the suggestion of a (given) reaction scheme. The formation of compounds of an enol-type are a second confirmation of the structure. The obtained values are similar to those of the vinyl ethynylsilanes $R_3SiC \equiv C-CH=CH_2$. Furthermore 2 ways of synthesis are described. The synthesis of the ether $CH_3-C \equiv C-CH_2-OSi(C_2H_5)_3$ was also successful. An isomeric tertiary alcohol $CH_3-C \equiv C-CH_2-OSi(C_2H_5)_3$ which formerly was considered to be an ether has here given constants. There is 1 table and 4 Slavic references.

ASSOCIATION

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Card 2/2

Institute for Organic Chemistry". N.D. Zelinskiy" of the A.N. of the (Institut organicheskoy khimii im. N.D. Zelinskogo A.N. SSSR) USSR.
March 3, 1957
Library of Congress

YEGOROV Yu. P.

AUTHORS: Ponomarenko, V. A., Yegorov, Yu. P., Vzenkova, G. Ya. 62-1-7/29
 TITLE: On the Production and the Properties of Some Alkylsilane-Deuterides
 (Polucheniye i svoystva nekotorykh alkilsilandeyteridov)
 PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp 54-58
 (USSR).

ABSTRACT: Among the great number of the various silicon-organic compounds hitherto obtained only some are to be found which contain in their composition beside hydrogen also its isotopes (deuterium and tritium). Among other it was of interest to investigate for the synthesis of the alkylsilane-deuterides the possibility of application of the deuteride of lithium (LiD) as the latter has hitherto not been used for the synthesis of the silanedeuterides. This presupposes, however, an alteration of the method of synthesis. Table 1 shows the properties of the obtained deuterides. There let see that the substitution of hydrogen in silicon compounds by deuterium exercises almost no influence on the boiling temperature of these compounds. Practically also the refraction index remains constant. Only the specific weight is considerably increased. It is assumed that the quantity of the binding refraction Si-D amounts to an average of 3,23 ml/molecule and thus is very similar to the binding refraction Si-H (according to Warrick 3,20 ml/molecules (reference 19). Data referring to the ex-

Card 1/2

On the Production and the Properties of Some Alkylsilane-Deuterides 62-1-9/29

perimental conditions are shown in table 2. The reduction of the alkylsilanechlorides to the corresponding deuterides occurs under already earlier described conditions. Summary: 5 new alkylsilanedeuterides were obtained and their physical properties investigated. It was found that the frequency of the valence oscillations of Si-D extend to the range of from $1530 - 1570 \text{ cm}^{-1}$ and that it decreases correspondingly to the reduction of the atomic number of D in Si. There are 2 tables, and 24 references, 2 of which are Slavic.

ASSOCIATION: Institute of Organic Chemistry imeni N. D. Zelinskiy of the AS USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk SSSR).

SUBMITTED: July 20, 1956.

AVAILABLE: Library of Congress

1. Alkylsilane-Deuterides-Synthesis
2. Alkylsilane-Deuterides-Properties

Card 2/2

Yegorov, Yu. P.

AUTHORS: *Mirachev, Kh. M., Shuykin, N. I.,
Feofanova, L. M., Yegorov, Yu. P.*

62-2-7/28

TITLE: Transformations of n.Hendecane in the Presence of Some Metals of the Eighth Group Under Hydrogen Pressure in a Flow-System (Prevrashcheniya n.undekana v prisutstvii nekotorykh metallov vos'moy gruppy pod davleniyem vodoroda v protochnoy sisteme).

PERIODICAL: Izvestiya AN SSSR Otdeleniya Khimicheskikh Nauk, 1958, Nr 2, pp. 174-180 (USSR).

ABSTRACT: The results of the contact-catalytic transformations of n.heptane and n.decane in the presence of some metals of the eighth group were described in the reports already published. These conversions took place under hydrogen pressure and at raised temperatures. The authors continued their investigations in this field and in the present paper deal with the investigation of the behavior of n.hendecane on Pt-, Pd- and Ni-catalysts. Papers on the investigation of the conversions of high-molecular alkanes are almost completely absent in publications. This is mainly to be explained by the fact that investigations in this direction meet with great difficulties due to the absence of chemical and physical methods for the

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Transformations of n.Hendecane in the Presence of Some Metals
of the Eighth Group Under Hydrogen Pressure in a Flow-System.

62-2-7/28

analysis of the hydrocarbon mixtures obtained by the conversions. In the present paper the authors report on the investigation of the catalytic properties of finely dispersed palladium, platinum and nickel, separated in small concentrations on aluminum oxide in the conversions of n.hendecane at 350-450°C under hydrogen pressure (20 at. excess pressure) in a flow-system. It was found that the degree of conversion of the initial hydrocarbon is to a considerable extent dependent on the type of catalyst. It was further shown that under the assumed conditions the fundamental direction of the conversions of n.hendecane are the reactions of isomerization, hydrocracking and partial dehydrocyclization. Finally the problem concerning the ways of formation of aromatic hydrocarbons from n.hendecane was examined. There are 4 tables, and 6 references, 5 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry imeni N.D. Zelinskiy AN USSR
(Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR).

SUBMITTED: August 28, 1956

AVAILABLE: Library of Congress

Card 2/2

1. Palladium-Catalytic properties
2. Platinum-Catalytic properties
3. Nickel-Catalytic properties
4. n-Hendecane-Transformations

YEGOROV, Yu. P.

AUTHORS: Yegorov, Yu. P., Leytes, L. A., Mironov, V. F. 62-58-4-24/32

TITLE: Transconfiguration of 1,2-Disilylsubstituted Ethylenes (O trans-konfiguratsii 1,2-disililzameshchennykh etilenov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 4, pp. 510-512 (USSR)

ABSTRACT: In previous papers (Refs 1-3) the authors described for the first time the synthesis of 1,2-bis-(trichlorosilyl)-ethylene and 1,2-bis-(trimethylsilyl)-ethylene as well as the combination dispersion of light in the latter compounds. They also uttered the assumption that the widening of the frequency of the binary binding to 20 cm^{-1} observed in this spectrum can possibly be explained by the cis-trans-isomerism. The KRS-spectrum (Ref 4) of 1,2-bis-(trichlorosilyl)-ethylene was described by Batuyev and others (spectrograph KPC-11). The authors of the present paper report that they found the IR-spectra of 1,2-bis-(trichlorosilyl)-ethylene and 1,2-bis-(trimethyl)-ethylene (within the range of from $700\text{-}1700 \text{ cm}^{-1}$).

Card 1/2

Transconfiguration of 1,2-Disilylsubstituted
Ethylenes

62-58-4-24/32

It was reported that these molecules have centrosymmetrical transconfiguration. There are 2 figures, 2 tables, and 7 references, 5 of which is Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry N.D. Zelinskiy, AS USSR)

SUBMITTED: November 27, 1957

AVAILABLE: Library of Congress

1. Disilylsubstituted ethylenes--Transconfigurations

Card 2/2

PETROV, A.D.; SADYKH-ZADE, S.I.; YEGOROV, Yu.P.

Reactions of gamma-chloroalkylchlorosilanes with silicon in direct
synthesis. Izv. AN Azerb. SSR. Ser.fiz.-tekh. i Khim.nauk no.6:
123-135 '58. (MIRA 12:2)

(Silane)

(Silicon)

AUTHORS: Shuykin, N. I., Pozdnyak, N. A.,
Yegorov, Yu. P.

SOV/62-58-10-13/25

TITLE: Catalytic Alkylation of Benzene by Alkene in the Vapor Phase
(Kataliticheskoye alkilirovaniye benzola alkenami v
parovoy faze) Communication 2: Benzene Alkylation With
3-Methyl Butene-1 (Soobshcheniye 2. Alkilirovaniye benzola
3-metilbutenom-1)

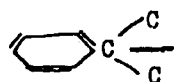
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1958, Nr 10, pp 1239 - 1244 (USSR)

ABSTRACT: The investigation of the reaction of the benzene alkylation
by 3-methyl butene-1 is the continuation of the
publications in this field of the benzene alkylation
in contact with zinc chloride, applied to aluminum oxide
(Refs 1-3). In the alkylation of benzene by 3-methyl
butene-1 carried out the formation of 2 amyl benzenes,
the 2-methyl-3-phenyl butane as well as small amounts
of 2-methyl-4-phenyl butane may be expected. From the
product of catalysis obtained amyl benzene (boiling point
189-189,5°; n_D^{20} 1,4929 and d_4^{20} 0,8736) was produced.

Card 1/4

Catalytic Alkylation of Benzene by Alkene in the Vapor Phase. Communication 2: Benzene Alkylation With 3-Methyl Butene-1 SOV/62-58-10-13/25

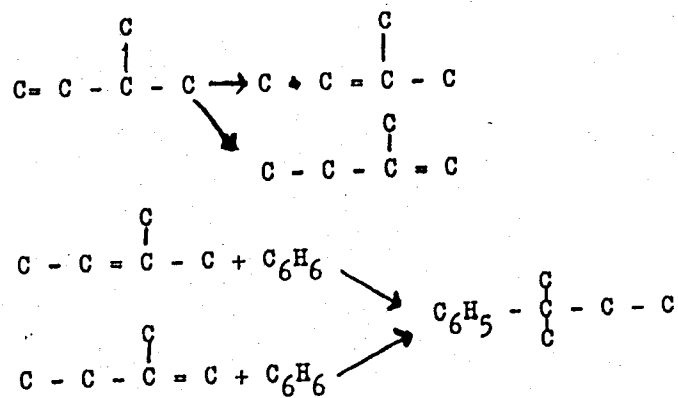
This substance was, however, neither similar to the 2-methyl-3-phenyl butane nor to 2-methyl-4-phenyl butane, but to the 2-methyl-2-phenyl butane. Its properties are: boiling point: 189-191°; n_D^{20} 1,4920 and d_4^{20} 0,8737. To explain this problem the spectra of the combination dispersion were used. The result of the investigation (in which the spectrum obtained was compared with the spectrum of the compound



) was: The basic product of the benzene alkylation by 3-methyl butene-1 under the conditions assumed by the authors is: 2-methyl-2-phenyl butane. This hydrocarbon can be formed in the alkylation of benzene by 2-methyl butene-1 and 2-methyl butene-2. Based on the experimental data obtained the authors proposed the following reaction scheme:

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SOV/62-58-10-13/25



There are 1 figure, 4 tables, and 7 references, 6 of which are Soviet.

Card 3/4

Catalytic Alkylation of Benzene by Alkene in the Vapor Phase. Communication 2: Benzene Alkylation With 3-Methyl Butene-1 SOV/62-58-10-13/25

ASSOCIATION: Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N.D. Zelinskiy AS USSR)

SUBMITTED: February 23, 1957

Card 4/4

5(3)

AUTHORS:

Bekauri, N.G., Shuykin, N.I.,
Yegorov, Yu.P., Shakarashvili, T.S.

SOV/62-58-11-17/26

TITLE:

Separation of Higher n-Alkanes From the Fraction With Its
Boiling Point at 190-350° of the Sokolovogorskaya and Mirzaani
Petroleums (Vydeleniye vysshikh n.alkanov iz fraktsii s t.kip.
190-350° sokolovogorskoy i mirzaanskoy neftey)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1958, Nr 11, pp 1376 - 1382 (USSR)

ABSTRACT:

In the present paper the authors investigated kerosene-gas oil
fractions of petroleum from the ~~Sokolovy mountains~~ (Ural) and Mirzaani
(Gruzinskaya SSR) deposits. Under laboratory conditions fractions
were separated by means of direct distillation which evaporate in
the temperature range of 190-350°. The properties of the distillates
obtained are given (Table 1). 10 normal alkanes of the composition
 $C_{11}H_{24}$ - $C_{20}H_{42}$ from the fraction with its boiling point at 190-350°
were identified by means of physico-chemical methods and infrared
spectroscopy. The working methods applied were already described
in previous papers (Refs 1 - 6). In the investigated fractions
the content of each separated hydrocarbon was ascertained. The

Card 1/2

Separation of Higher n-Alkanes From the Fraction With SOV/62-58-11-17/26
Its Boiling Point at 190-350° of the Sokolovogorskaya and Mirzaani
Petroleums

data are given (Table 5). Parameters characterizing the motoric properties have been determined. The results of these determinations are given (Table 6). As can be seen from the table, the fraction with its boiling point at 190-350° of the Mirzaani petroleum as compared with the same fraction of the Sokolovogorskaya petroleum has a slightly lower characteristic. There are 2 figures, 6 tables, and 16 references, 11 of which are Soviet.

ASSOCIATION: Institut khimii im. P.G.Melikashvili Akademii nauk Gruz SSR
(Institute of Chemistry imeni P.G.Melikashvili, Academy of Sciences, Gruzinskaya SSR)
Institut organicheskoy khimii im.N.D. Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N.D. Zelinskiy, Academy of Sciences, USSR)

SUBMITTED: March 22, 1957

Card 2/2

5 (3,4)
AUTHORS:

Yur'yev, Yu. K., Rozantsev, E. G.,
Yegorov, Yu. P.

SOV/55-58-6-27/31

TITLE:

The Infrared Spectra of Thiophane and Its Homologues
(Infra-krasnyye spektry tiofana i yego gomologov)

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki,
astronomii, fiziki, khimii, 1958, № 6, pp 215 - 222 (USSR)

ABSTRACT:

As the exact determination of sulphur containing petroleum fractions is of a great practical and technological interest V. M. Tatevskiy and one of the authors (Ref 1) tried to analyze the Raman-spectrum of thiophane and of eight of its homologues with the result that they observed in all compounds investigated a characteristic frequency of 690 cm^{-1} which was ascribed to the fully symmetrical oscillation of the thiophane ring. On the other hand, the spectra of the sulphides with open carbon chains show - in the range between 600 and 700 cm^{-1} - also intensive lines which are ascribed to the valency oscillations of the C-S-bond. (Refs 2-5). Hence, as the Raman spectrum is but roughly indicative, and as it is difficult to decipher it in view of its extensive background, the above authors tried to use the infrared spectrum for identifying the five-member

Card 1/3

The Infrared Spectra of Thiophene and Its Homologues SOV/55-58-6-27/31

cyclic sulphides. Besides, publications are lacking of data on the infrared spectrum of the thiophene homologues. The task, therefore, consisted in finding out the characteristics of the individual bands of the various connecting groups of the homologues worth an analysis. The infrared spectra were taken of the representatives of the 2-Alkyl-thiophene range (alkyl- C_2H_5 , C_3H_7 , C_4H_9) (Fig 1), of the 3-alkyl-thiophenes (Alkyl- C_2H_5 , C_3H_7 , C_4H_9 , C_5H_{11} , 1- C_5H_{11} , C_6H_{13} ; Fig 2), the spectrum of the 2,5 dimethyl-thiophene, the representatives of the range of the 2,5 dimethyl-3-alkyl-thiophene (Alkyl- CH_3 , C_2H_5 , C_3H_7 , C_4H_9 , 1- C_4H_9 , C_5H_{11} and 1- C_5H_{11} , Fig 3). The first two ranges, but also the last, show in their spectra a repetition of various frequencies which can be employed for characterizing the individual compounds. The valency oscillations of C-S are somewhat lower in the 2-alkyl-thiophenes than in the 3-alkyl-thiophenes (715-730 and 730-750 cm^{-1}). With all monoalkylthiophenes the frequency of the annular skeleton was at 1260 cm^{-1} , whilst with the trialkyl-thiophenes this frequency amounted to 1250 cm^{-1} . The bands, absent in

Card 2/3

The Infrared Spectra of Thiophane and Its Homologues SOV/55-58-6-27/31

the infrared spectrum of the thiophane itself and the bands, all but intensive, in the infrared spectrum of the monoalkyl-thiophanes in the range about 1370 cm^{-1} , were considerably stronger with the trialkylthiophanes. Furthermore, the intensity of the bands in the ranges $2930\text{--}2940$ and 2960 cm^{-1} considerably increased with the increase of the methylene groups and the methyl-groups. Investigations in connection with the infrared spectrum proved that they may be employed advantageously for an analysis of the sulphur-containing petroleum fractions for determining the thiophane and its homologues contained therein. The spectrograms were taken by means of the spectrometer IKS-11. The constant values of the monoalkyl-thiophanes and the 2,5 dimethyl-3-alkyl-thiophanes are compiled in tables 1 and 2. The synthesis of the last mentioned compounds is described briefly. There are 3 figures, 2 tables, and 22 references, 13 of which are Soviet.

ASSOCIATION: Kafedra organicheskoy khimii (Chair for Organic Chemistry)

SUBMITTED: September 19, 1958
Card 3/3

AUTHORS: Petrov, A. D., Kapan, Ye. P.,
Letina, Z. I., Yegorov, Yu. P.

79-22-3-9/61

TITLE: Metallo-Organic Synthesis of Dibiphenylalkanes and
Diphenylalkanes III (Metalloorganicheskiy sintez
dibifenilalkanov i difenilalkanov III)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 608-612
(USSR)

ABSTRACT:

The authors described in earlier works (Refs 1,2) an hydro-carbon synthesis of the dibiphenylalkane- and alkyl-1,4-dihydrophenyl series. In the present paper they give further supplementary investigations with respect to the synthesis of these series of hydrocarbons. The reaction of 4-bromomagnesiumdiphenyl with the ethyl ester of undecilen and palmitic acid furnished alcohols which by dehydration converted to olefines in order to convert subsequently above nickel step-by-step to naphthene hydrocarbons by hydrogenation. The heat of fusion as well as the viscosity at various temperatures were determined for the synthesized products. It was found that with an elongation of the

Card 1/3

Metallo-Organic Synthesis of Dibiphenylalkanes and
Diphenylalkanes III

79-28 3-9/61

alkyl radical to a certain limit the heat of fusion drops, irrespective of the increase of molecular weight, and then it suddenly rises (see formulae with heat of fusion). The viscosity of hydrocarbons decreases with the elongation of the alkylchain, the viscosity index changing little (fig.1). According to Schlenk and Bergmann (Ref 3) lithium is bound to diphenyl in the position 1,4: 1,4-dilithiumdihydrophenyl forming in this process. On the action of $n-C_4H_9Br$ and $n-C_{10}H_{19}Br$ on the latter monoalkyldihydrodiphenyls and di-alkyldihydrodiphenyls were obtained (see reaction process). In order to determine the position (1 or 4) of the alkylchain in the monoalkyldihydrodiphenyls a dehydration of $n-C_4H_9-$ and $n-C_6H_{13}-1,4$ -dihydrophenyls with sulfur was carried out. The synthesized 4-butyl- and 4-hexyldiphenyls were almost identical with respect to their heat of fusion to the hydrocarbons earlier obtained by another method. This bears out the fact that the alkyl chains in monoalkyldihydrodiphenyls are in position 4.

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Metallo-Organic Synthesis of Dibiphenylalkanes and
Diphenylalkanes III

79-28-3-9/61

The dibicyclohexyldecylmethane and dibicyclohexyl-pentadecylmethane were synthesized. The 4-Butyl-, 1,4-Dibutyl-, 4-Decyl- and 1,4 Didecyl-1,4-dihydrodiphenyl were obtained. The ultraviolet spectra 12 of the alkyl-1,4-dihydrophenyls were determined and the authors showed that in the lithium-organic synthesis of these compounds mainly binding systems occur beside such of quinoid structure. There are 2 figures, 1 table, and 7 references, 2 of which are Soviet

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute for Organic Chemistry, AS USSR)

SUBMITTED: January 16, 1957

Card 3/3

AUTHORS:

Chernyshev, Ye. A.; Dolgaya, M. Ye., 79-28-3-10/61
Yegorov, Yu. P.; Semenov, L. V.; Petrov, A. D.

TITLE:

The Silicon Alkylation of Aromatic Compounds With
Dichloro-Alkylsilane-Chlorides
(Kremnealkilirovaniye aromaticeskikh soyedineniy
dikhloralkilsilankhloridami)

PERIODICAL:

Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 613-616
(USSR)

ABSTRACT:

Based on earlier investigations of the same authors, in which the silicon alkylation of aromatic compounds was carried out with chloroalkyltrichlorosilanes and chloroalkyldichlorosilanes in the presence of $AlCl_3$ or metallic aluminum, they investigated the same alkylation with benzene, toluene and chlorobenzene together with dichloro-alkylsilanechlorides. These reactions did not take place as simply as the above mentioned, the yields also being small (3-48 % compared with 30-80 %); this most probably because of the intensive formation of resin. Besides the character of the final products of alkylation varied according to the

Card 1/3

The Silicon Alkylation of Aromatic Compounds With Dichloro- 79-28 3-10/61
Alkylsilane-Chlorides

nature of the two components (table 1). The fact is of interest that with $\alpha,\alpha,\beta,\beta$ - and α,β -dichloroethyltrichlorosilanes chlorobenzene reacts mainly with the two chlorine atoms of the dichloroalkyltrichlorosilane, giving three times higher yields than benzene. Also toluene reacts with greater yields, however, only with one chlorine atom, the other being substituted by a hydrogen atom. It is known that toluene rather easily gives its electrons to a binding with hydrogen. In order to investigate the structure of the obtained compounds their ultraviolet absorption spectra were taken. It was shown that in the silicon alkylation of benzene, toluene and chlorobenzene with dichloroethyltrichlorosilanes one chlorine atom in the dichloroethyl radical is substituted by hydrogen. With benzene and chlorobenzene this reaction does not occur as main reaction, which, however, is entirely the case with toluene. In the silicon alkylation by means of dichloromethylsilanechlorides no reduction reactions are observed. Ultraviolet absorption spectra were taken for a number of synthesized compounds

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The Silicon Alkylation of Aromatic Compounds With Dichloro- 79-28.3-10/61
Alkylsilane-Chlorides

after their methylation; this made possible to specify
their structure more exactly.
There are 2 figures, 2 tables, and 6 references
which are Soviet

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute for Organic Chemistry, AS USSR)

SUBMITTED: March 11, 1957

Card 3/3

AUTHORS: Chel'tsova, M. A., Petrov, A. D., 79-28-4-22/60
 Yegorov, Yu. P.

TITLE: The Organomagnesium Synthesis and Properties of 1,1,1-Triphenylalkylmethanes, 1,5-Diphenyl-3-Benzil-Pentane, 1-Phenyl-3 (2 Phenylethyl)-Tridecane. II (Magniyorga= nicheskiy sintez i svoystva 1,1,1-trifenilalkilmetanov, 1,5-difenil-3-benzilpentana, 1-fenil-3(2-feniletil)-tridekana. II)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 4, pp. 945-950 (USSR)

ABSTRACT: In the present paper the authors synthesized for the first time 14 hydrocarbons: 1,1,1-triphenyloctane, 1,1,1-triphenyl-2-methyl othane, 1,1,1-triphenyldecane, 1,1,1-triphenylundecane, 1,5-diphenyl-3-benzil-pentane, 1-phenyl-3-(2-phenylethyl)-tridecane, 1,1,1-tricyclohexipentane, 1,1,1-tricyclohexyl-2-methyloctane, 1,1,1-tricyclohexyldecane, 1,1,1-tricyclohexylundecane,

Card 1/3

The Organomagnesium Synthesis and Properties of
1,1,1-Triphenylalkylmethanes, 1,5-Diphenyl-3-
Benzyl-Pentane, 1-Phenyl-3 (2 Phenylethyl)-Tridecane.II

79-28-4-22/60

1,1-dicyclohexyl-2-methyloctane, 1,1-dicyclohexyldecane,
1,5-dicyclohexyl-3-(cyclohexylmethyl)-Pentane, 1-cyclo-
hexyl-3-(cyclohexylethyl)-tridecane. The solidification
points and the viscous properties of these substances were
determined. It was shown, that in the triphenyl alkylme-
thane series the viscosity and the solidification point
decrease corresponding to a lengthening of the alkyl chain
up to C_7H_{15} , and then increase again. An analogous minimum
obviously also occurs in the tricyclohexyl-alkylmethane
series. Attempts to localize this minimum were, however,
unsuccessful, because tricyclohexylnonyl- and decylmethane
vitrify. It was found that the transition from 1,1,1-tri-
cyclohexylpentane to 1,5-dicyclohexyl-3-(cyclohexylmethyl)
-pentane, and from 1,1-diphenyltetradecane to 1-phenyl-3-
(2-phenylethyl)-tridecane results in a considerable lowering
of the solidification point. This is a result of the dis-
persal of the cyclohexyl (phenyl) nuclei in the molecules

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The Organomagnesium Synthesis and Properties of
1,1,1-Triphenylalkylmethanes, 1,5-Diphenyl-3-
Benzil-Pentane, 1-Phenyl-3 (2 Phenylethyl)-Tridecane. II

79-28-4-22/60

of hydrocarbons.

There are 2 figures, 3 tables and 9 references, 2 of
which are Soviet.

ASSOCIATION: Institut organicheskoy khimii akademii nauk SSSR
(Institute for Organic Chemistry, AS USSR)

SUBMITTED: March 18, 1957

Card 3/3

AUTHORS: Novikov, S. S., Lebedev, O. V., SOV/79-28-8-66/66
 Khmel'nitskiy, L. I., Yegorov, Yu. P.

TITLE: Decomposition Reactions of Nitrogen Dioxide and Organic
 Compounds (Vzaimodeystviye N_2O_4 s organicheskimi soyedineniyami)
 III. Decomposition Reaction of N_2O_4 With Salts of the
 Aliphatic Nitro Compounds (III. Vzaimodeystviye N_2O_4 s
 solyami alifaticheskikh nitrosoyedineniy)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8,
 pp. 2305 - 2307 (USSR)

ABSTRACT: In contrast to the reactions of the aromatic oximes and
 the aryl nitromethane salts with N_2O_4 producing dinitro
 compounds, the reaction of the aliphatic oximes with nitrogen
 dioxide produces nitrosnitro compounds. Thus, for example,
 acetoxin and N_2O react to form propylpseudonitrole (Ref 3)
 $(CH_3)_2C(=O)(NO_2)_4$. Analogous to the course of the reaction
 between the oximes and the nitro compounds of the aromatic
 series, it is to be expected that the aliphatic series would
 react in the same way, i.e. that the salts of the aliphatic
 nitro compounds must react with N_2O_4 to give nitrosnitro

Card 1/3

Decomposition Reactions of Nitrogen Dioxide and Organic SOV/79-28-8-66/66
Compounds. III. Decomposition Reaction of N_2O_4 With Salts of the Aliphatic
Nitro Compounds

compounds. In the work reported in this paper this hypothesis was tested using the alkali salts of the following compounds: 2-nitropropane; ethylnitroacetate; and 1,1-dinitroethane. Thus propylpseudonitrile was obtained by the reaction between the sodium salt of 2-nitropropane and N_2O_4 (reaction diagram 4). In the reaction of the sodium salt of nitroacetate with N_2O_4 , the ethyl ester of nitroximeacetic acid was formed (Diagram 2). In the reaction between the potassium salt of 1,1-dinitroethane and N_2O_4 , ethylnitrolic acid was produced; in this reaction a labile intermediate product, a nitroso compound, formed (Diagram 3). Contrary to expectation, only the nitromalonic acid ester separated out quantitatively in the reaction between N_2O_4 and the potassium salt of nitromalonic acid ester. Spectral analysis showed that this anomaly resulted from the fact that the potassium formed the salt not at the nitro group, but at the carbonyl group. There are 4 references, 1 of which is Soviet.

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Decomposition Reactions of Nitrogen Dioxide and Organic SOV/79-28-8-66/66
Compounds. III. Decomposition Reaction of N_2O_4 With Salts of the Aliphatic
Nitro Compounds

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute
of Organic Chemistry, AS USSR)

SUBMITTED: December 31, 1957

Card 3/3

MESHCHERYAKOV, A.P.; PETROVA, L.V.; YEGOROV, Yu.P.

Reactivity of α, β -unsaturated ketones and β -halogen ketones in
Kishner reactions. Zhur.ob.khim. 28 no.9:2588-2595 S '58.
(MIRA 11:11)

1. Institut organicheskoy khimii AN SSSR.
(Ketones)

SOV/79-28-10-42/60
Yegorov, Yu. P.

AUTHORS: Chernyshev, Ye. A., Dolgaya, M. Ye.,

TITLE: Reaction of γ -Chloro-Propyl-Silane Chloride With Aromatic Compounds in the Friedel-Crafts Reaction (Vzaimodeystviye γ -khlorpropilsilankhloridov s aromaticeskimi soyedineniyami po reaktsii Fridelya-Kraftsa)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2829-2837 (USSR)

ABSTRACT: Further to the investigations (Ref 1) into the dependence of the reactivity of chloro alkyl silane chloride on the position of the C-Cl bond with regard to the silicon atom, the authors investigated the reaction of the β - and γ -chloro-propyl-trichloro silanes, as well as of the β - and γ -chloro-propyl-methyl-dichloro silanes, with various aromatic compounds in the presence of $AlCl_3$ or of Al . Either silane reacted most energetically with benzene, toluene, and chloro benzene. This reaction takes two to three hours at $60-70^\circ$ (40-60 % derivatives yield). In order to reduce resinification in the case of diphenyl, diphenyl oxide, and naphthalene, aluminum was used as a catalyst, which resulted in lower yields (20-40 %).

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SOV/79-28-10-42/60

Reaction of γ -Chloro-Propyl-Silane Chloride With Aromatic Compounds in the Friedel-Krafts Reaction

The γ -chloro-propyl-trichloro- and γ -chloro-propyl-methyl-dichloro-silanes reacted as energetically as the β -isomers, without any decrease in the yields of silicon alkylation products. Although the reactivity of the α -chloro-alkyl-silane chlorides is much lower than that of the β -isomers, the reactivity of the γ -chloro-alkyl-silane chlorides is not lower than that of the β -chlorides. In the silicon alkylation of benzene with γ -chloro-propyl-trichloro silane, the β - and γ -isomers are thus formed in a ratio of 1:2,9; in the alkylation with γ -chloro-propyl-methyl-dichloro silane, only the γ -isomer is formed. All the other reactions of the above-mentioned silanes were carried out under analogous conditions (Table 1). The resulting compounds were methylated (Table 2). There are 2 tables and 4 references, 4 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute of Organic Chemistry at the Academy of Sciences, USSR)

SUBMITTED: August 15, 1957
Card 2/3

SOV/79-28-12-21/41

AUTHORS:

Yegorov, Yu. P., Kaplan, Ye. P.,
Letina, Z. I., Shlyapochnikov, V. A.,
Petrov, A. D.

TITLE:

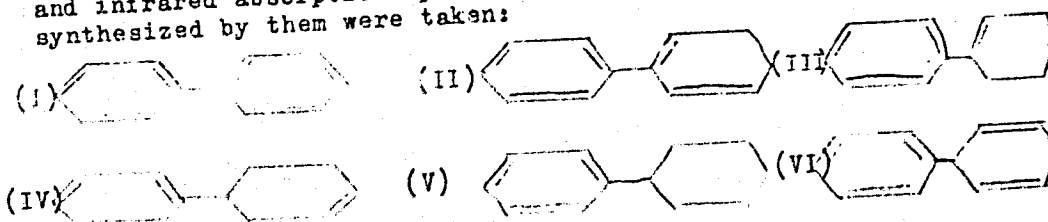
On the Order of Affiliation of Lithium to Diphenyl (O poryadke
prisoyedineniya litiya k difenilu)

PERIODICAL:

Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3258-3262
(USSR)

ABSTRACT:

Continuing the papers of references 1 - 6 the authors intended
to determine more in detail the points of affiliation of
lithium to diphenyl. In connection herewith the ultraviolet
and infrared absorption spectra of the following hydrocarbons
synthesized by them were taken:

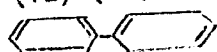


Card 1/3

On the Order of Affiliation of Lithium to Diphenyl

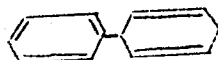
SOV/79-28-12-21/41

The ultraviolet absorption spectra may be seen in figure 1; they show the abrupt deviation of the spectra (I), (II), (III) and (VI) from (IV) and (V). The spectra (IV) and (V) are the same and differ only slightly from the known ultraviolet spectra of monosubstituted benzenes. These data do not prove the quinoid structure of the second nucleus in (VI). Therefore, when taking into account the intensity (ξ) in the spectrum (VI) (12,000), its structure corresponds to the form



Generally speaking, it may be assumed that there is also a mixture of diphenyl with or

(II) with as well as with



. The infrared absorption spectra taken agree with the ultraviolet ones as concerns their results; they show that the synthesized hydrocarbons may be divided into two groups, i.e. into those (I, II, III, VI) having con-

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On the Order of Affiliation of Lithium to Diphenyl

SOV/79-28-12-21/41

jugated bonds with the phenyl nucleus, and those (IV) and (V) not having such a bond (Fig 2). Starting from what was said it may be assumed that the affiliation of lithium to the diphenyl takes place in position 3,6, not in position 1,4, as reported by Schlenk and Bergmann (Shlenk, Bergman). There are 2 figures and 13 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, USSR)

SUBMITTED: November 28, 1957

Card 3/3

SOV/20-122-3-23/57

AUTHORS:

Ponomarenko, V. A., Vzenkova, G. Ya., Yegorov, Yu. P.

TITLE:

Alkyl Germanium Hydrides and Alkyl Germanium Deuterides
(Alkilgermaniygidridy i alkilgermaniydeyteridy)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 3, pp 405-408
(USSR)

ABSTRACT:

Since 1886 (Ref 1) only few organic (17) and inorganic (13) germanium hydrides have been produced (Ref 2). The germanium deuterides known since 1954 contain no organic ones. Both groups of compounds mentioned are of importance for the elaboration of new methods of production of organogermanium compounds. Moreover, the refraction of the Ge-H and Ge-D bindings had to be determined at least with a certain approximation. In the present paper the production and the properties of the following compounds are described: 1) $\text{CH}_3\text{GeH}_3 \rightarrow (\text{CH}_3)_2\text{GeH}_2 \rightarrow (\text{CH}_3)_3\text{GeH}$. 2. $\text{CH}_3\text{GeD}_3 \rightarrow (\text{CH}_3)_2\text{GeD}_2 \rightarrow (\text{CH}_3)_3\text{GeD}$. 3. $\text{C}_2\text{H}_5\text{GeH}_3 \rightarrow (\text{C}_2\text{H}_5)_2\text{GeH}_2 \rightarrow (\text{C}_2\text{H}_5)_3\text{GeH}$. 4. $\text{C}_2\text{H}_5\text{GeD}_3 \rightarrow (\text{C}_2\text{H}_5)_2\text{GeD}_2 \rightarrow (\text{C}_2\text{H}_5)_3\text{GeD}$. All these organic germanium hydrides and deuterides were produced in a suf-

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SOV/20-122-3-23/57

Alkyl Germanium Hydrides and Alkyl Germanium Deuterides

efficient yield under conditions which were similar to that of the production of alkyl silane hydrides and deuterides (Ref 6) i. e. from the corresponding alkyl germanium chlorides (bromides) LiH and LiD. The physical properties of these compounds are given on table 1. It may be concluded from it that the refraction of the Ge-H binding is on the average about 3,38 ml/mol, that of the Ge-D binding 3,34 ml/mol. In the production of the initial compounds $(CH_3)_2(C_2H_5)GeCl$ and $(C_2H_5)_2GeCl_2$ by means of the

organomagnesium method the exchange reaction of chlorine with bromine was observed (Ref 8). Bromide yield was sufficiently high. It can be concluded from this fact that in germanium chlorine atoms have an increased exchangeability with the bromine atoms in the Grignard reaction. In analogy to the hydrosilanes (Ref 12) the authors proved in the present paper the possibility of application of chloroplatinic acid by using the Karash reaction for the germanium hydride compounds at the example of trichloro germanium. In conclusion the spectra of the combination dispersion of the compounds mentioned in the title are discussed. There are 1 table and 16 references, 5 of which are Soviet.

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SOV/20-122-3-23/57

Alkyl Germanium Hydrides and Alkyl Germanium Deuterides

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR) Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev, AS USSR)

PRESENTED: May 9, 1958, by A. A. Balandin, Member, Academy of Sciences, USSR

SUBMITTED: May 5, 1958

Card 3/3

5(3)
AUTHORS: Freydlin, L. Kh., Polkovnikov, B. D., SOV/62-59-5-23/40
Yegorov, Yu. P.

TITLE: Consecutive
Hydrogenation Sequence of the Double Bonds of
Cyclohexadiene-1,3 and Its Irreversible Catalysis
on Pt- and Pd-Blacks (Posledovatel'nost' gidrirovaniya
dvoynnykh svyazey tsiklogeksadiyena-1,3 i yego neobratimyy
kataliz na Pt- i Pd-chernyakh)

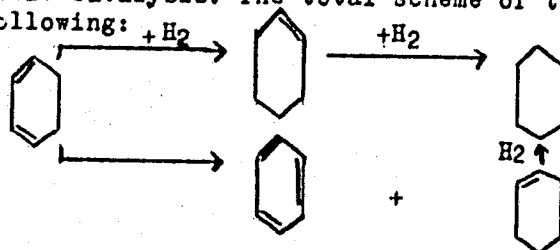
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 5, pp 910-915 (USSR)

ABSTRACT: The process of the hydrogenation of cyclohexadiene mentioned
in the title has not yet been completely investigated.
Zelinskiy and Pavlov (Ref 6) were the first to find
out that it develops in two stages:
1) $2 C_6H_8 \rightarrow C_6H_6 + C_6H_{10}$ 2) $3 C_6H_{10} \rightarrow C_6H_6 + 2 C_6H_{12}$,
the second stage developing much more slowly than the first.
In this paper this process is investigated under conditions
which render the simultaneous hydrogenation and irreversible
catalysis possible. It is found that in the presence of

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Consecutive
/Hydrogenation Sequence of the Double Bonds of SOV/62-59-5-23/40
Cyclohexadiene-1,3 and Its Irreversible Catalysis on Pt- and Pd-Blacks

Pt- and Pd-black in alcohol and in n. heptane at 25° the unsaturated bonds of cyclohexadiene-1,3 are hydrogenized in stages. First, the entire cyclohexadiene-1,3 is converted into cyclohexane, and then hydrogen is linked on with the formation of cyclohexene. This formation is accompanied by hydrogen distributing reaction with the formation of cyclohexene and benzene (irreversible catalysis). The individual reaction data of the hydrogenation mentioned are shown in a table. The conditions of the reaction rates hydrogenation and irreversible catalysis depend on the nature of the catalyst (Figs 1, 2). In the presence of Pt-black the hydrogenation reaction predominates, and in Pd-black the irreversible catalysis. The total scheme of the reactions is the following:



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Consecutive
/Hydrogenation Sequence of the Double Bonds of SOV/62-59-5-23/40
Cyclohexadiene-1,3 and Its Irreversible Catalysis on Pt- and Pd-Blacks

There are 2 figures, 1 table, and 14 references, 12 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute for Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: July 12, 1957

Card 3/3

5(4)

AUTHORS:

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TITLE:

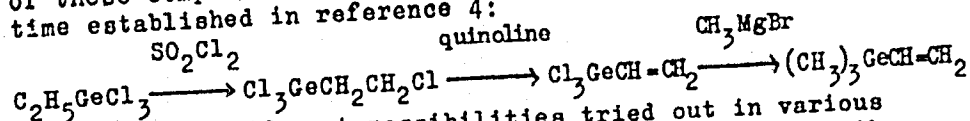
Relative Reactivities of Some Organic Silicon, Germanium,
and Tin Compounds and Their Raman Spectra

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 8, pp 1400-1407 (USSR)

ABSTRACT:

In continuation of previous papers (Refs 1-3) the present
paper deals with the addition reactions of compounds of the
type $R_2MCH=CH_2$ as a function of the nature of the central
atom M which can be replaced by C, Si, Ge, Sn. The syntheses
of these compounds follow the reaction pattern for the first
time established in reference 4:



Furthermore, different possibilities tried out in various
publications and previous investigations undertaken by the
authors regarding the preparations of these compounds are
discussed. In the compounds of the above type M was substituted
by C, Si, Ge, and Sn, respectively, and thiocyanogen was joined.

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Data relative to these experiments are to be found in figures 1 and 2. It was shown that the reactivities of the double bonds increase in the order $C < Si < Ge < Sn$ when the central atom M is changed. In a previous paper the authors had found that a change in the reactivities of the double bonds in the molecule is accompanied by a change in the intensities of the Raman frequencies characteristic of these bonds. Therefore, the spectra of the metallic compounds were photographed. The frequencies of the spectrum lines obtained are given and interpreted. The intensities of the respective lines of the double bonds in the Raman spectra exhibit the same order of elements as the reactivities of the said compounds. The distances between polysymmetrical and deformed lines of the valency oscillations M-C increase according to the geometrical progression ($n = ag^{n-1}$), $g \sim 2$. In the experimental part the syntheses of the individual compounds and the addition reactions are described. It was found in the syntheses that the specific effect of the Cl_3M -group (the β -orientation in chlorination, the tendency towards a β -decomposition, different chlorination

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rates) increases considerably at the transition from Si to Ge. The authors conclude by thanking Bugorkova for the determination of the thiocyanogen figures. There are 2 figures, 2 tables, and 27 references, 12 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: November 30, 1957

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5(3), 5(4)
AUTHORS:

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Novikov, S. S., Belikov, V. M., Yagorov, Yu. P., Safonova, E.M.,
Semenov, L. V.

TITLE:

Investigations in the Field of Nitropyrroles. Communication 3.
Ultra-violet Absorption Spectra and Tautomeric Transformations
of Some Nitropyrroles

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 8, pp 1438-1444 (USSR)

ABSTRACT:

In the present paper the ultra-violet spectra of 8 nitro-
pyrroles are investigated. The bands of the various compounds
are given in table 1 and shown in the figures. The spectra
were interpreted as indicating that the position of the
NO₂ group in the pyrrole nucleus can be determined by means
of the ultra-violet spectrum. The already supposed structure
of 1-methyl-3,4-dinitropyrrole (Ref 1) could be proved. The
tautomeric phenomena were investigated in a series of deri-
vatives not substituted at the nitrogen of nitropyrrole and
it could be shown that the acidity of these compounds increases
with the increasing number of nitro groups. The same effect
could be observed by regrouping the nitro group from position
β into α. This phenomenon was considered an inductive effect

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Investigations in the Field of Nitropyrroles. Communication 3. Ultra-violet Absorption Spectra and Tautomeric Transformations of Some Nitropyrroles

of the nitro group on the polarization of the N-H bond.
There are 6 figures, 1 table, and 17 references, 6 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR
(Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: November 30, 1957

Card 2/2

YEGOROV, Yu. P.

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AUTHORS:

Ponomarenko, V. A., Snegova, A. D., Yegorov, Yu. P.

TITLE:

Direction of the Chlorination and Bromination of Phenyl
Silanes Containing SiF_3 and $\text{Si}(\text{CH}_3)_3$ Groups

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, 1960, No. 2, pp. 244 - 250

TEXT: The following substances were investigated: $(\text{CH}_3)_3\text{Si}-\text{C}_6\text{H}_5$,

$\text{Cl}-\text{C}_6\text{H}_4-\text{SiCl}_3$, $\text{Cl}_3\text{Si}-\text{C}_6\text{H}_5$, $\text{F}_3\text{Si}-\text{C}_6\text{H}_5$, $\text{F}_3\text{Si}-\text{C}_6\text{H}_4\text{Cl}$, $\text{F}_3\text{Si}-\text{CH}_2-\text{C}_6\text{H}_5$.

The halogenation reactions were performed both with and without iron dust catalysts. The resultant products were identified by synthesizing them also by another method and by comparing the Raman spectra. The syntheses and the halogenation of the compounds mentioned are described in detail in the experimental part of the paper. Results: On chlorination of

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of Phenyl Silanes Containing SiF_3 and
 $\text{Si}(\text{CH}_3)_3$ Groups

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B003/B066

$(\text{CH}_3)_3\text{Si}-\text{C}_6\text{H}_5$ in the presence of metallic iron, the $(\text{CH}_3)_3\text{Si}$ group proves to be directed toward the ortho- and para-positions. Substitution of the more electronegative chlorine or fluorine for the CH_3 groups bound to the Si-atom gives substitutions in the meta-position. The chlorination of $\text{Cl}_3\text{Si}-\text{C}_6\text{H}_5$ or $\text{Cl}-\text{C}_6\text{H}_4-\text{SiCl}_3$ to dichlorides yields a mixture of reaction products under the given conditions. On photochemical chlorination of $(\text{CH}_3)_3\text{Si}-\text{C}_6\text{H}_5$ in the absence of iron dust only the H-atoms at the CH_3 groups are substituted, whereas the phenyl radical remains unchanged. Contrary to the trichloro silyl group, the F_3Si group and other groups which are directly linked by the Si-atom to the aromatic ring are rather easily split from the ring on chlorination or bromination. This behavior is apparently due to the steric or inductive effect caused by the substituents on the Si-atom and to the course of the reaction according

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